

4.5 PSP Cover Sheet (Attach to the front of each proposal)

Feasibility Study for a Plant Materials and Research Center for CalFed
 Proposal Title: Bay-Delta Projects in the North San Francisco Bay Ecological Mgmt. Zone
 Applicant Name: Denise Kelly Denise Kelly
 Mailing Address: 17370 Keaton Ave., Sonoma, CA 95476
 Telephone: 707 938-3733
 Fax: 707 938-1450
 Email: _____

Amount of funding requested: \$ 17,470.⁰⁰ for 1 years

Indicate the Topic for which you are applying (check only one box).

- | | |
|---|---|
| <input type="checkbox"/> Fish Passage/Fish Screens | <input type="checkbox"/> Introduced Species |
| <input checked="" type="checkbox"/> Habitat Restoration | <input type="checkbox"/> Fish Management/Hatchery |
| <input type="checkbox"/> Local Watershed Stewardship | <input type="checkbox"/> Environmental Education |
| <input type="checkbox"/> Water Quality | |

Does the proposal address a specified Focused Action? yes no

What county or counties is the project located in? Sonoma County, Napa County

Indicate the geographic area of your proposal (check only one box):

- | | |
|---|---|
| <input type="checkbox"/> Sacramento River Mainstem | <input type="checkbox"/> East Side Trib: _____ |
| <input type="checkbox"/> Sacramento Trib: _____ | <input type="checkbox"/> Suisun Marsh and Bay |
| <input type="checkbox"/> San Joaquin River Mainstem | <input checked="" type="checkbox"/> North Bay/South Bay: _____ |
| <input type="checkbox"/> San Joaquin Trib: _____ | <input type="checkbox"/> Landscape (entire Bay-Delta watershed) |
| <input type="checkbox"/> Delta: _____ | <input type="checkbox"/> Other: _____ |

Indicate the primary species which the proposal addresses (check all that apply):

- | | |
|--|---|
| <input type="checkbox"/> San Joaquin and East-side Delta tributaries fall-run chinook salmon | |
| <input checked="" type="checkbox"/> Winter-run chinook salmon | <input checked="" type="checkbox"/> Spring-run chinook salmon |
| <input checked="" type="checkbox"/> Late-fall run chinook salmon | <input checked="" type="checkbox"/> Fall-run chinook salmon |
| <input checked="" type="checkbox"/> Delta smelt | <input checked="" type="checkbox"/> Longfin smelt |
| <input checked="" type="checkbox"/> Splittail | <input checked="" type="checkbox"/> Steelhead trout |
| <input checked="" type="checkbox"/> Green sturgeon | <input checked="" type="checkbox"/> Striped bass |
| <input checked="" type="checkbox"/> Migratory birds | <input type="checkbox"/> All chinook species |
| <input checked="" type="checkbox"/> Other: <u>Callit. Clapper Rail, Salt Marsh</u> | <input type="checkbox"/> All anadromous salmonids |
| <u>Harems Mouse, Swainson's Hawk</u> | |

Specify the ERP strategic objective and target (s) that the project addresses. Include page numbers from January 1999 version of ERP Volume I and II:

Vol. I: Tidal perennial aquatic habitat p. 112, Non-tidal perennial aquatic habitat p. 118-119, Saline emergent wetland p. 133-134, Fresh emergent wetland p. 139-140, Seasonal wetlands p. 144, Essential fish habitats p. 162, Perennial grassland p. 169-171, Agricultural lands p. 173-174, Plant Communities p. 370, 377

Vol. II: Table 3 pp. 47-50, N. SF. Bay Ec. Mgt Zone p. 44, 46, 148-150.

Indicate the type of applicant (check only one box):

- | | |
|--|---|
| <input type="checkbox"/> State agency | <input type="checkbox"/> Federal agency |
| <input type="checkbox"/> Public/Non-profit joint venture | <input type="checkbox"/> Non-profit |
| <input type="checkbox"/> Local government/district | <input checked="" type="checkbox"/> Private party |
| <input type="checkbox"/> University | <input type="checkbox"/> Other: _____ |

Indicate the type of project (check only one box):

- | | |
|--|---|
| <input checked="" type="checkbox"/> Planning | <input type="checkbox"/> Implementation |
| <input type="checkbox"/> Monitoring | <input type="checkbox"/> Education |
| <input type="checkbox"/> Research | |

By signing below, the applicant declares the following:

- 1.) The truthfulness of all representations in their proposal;
- 2.) The individual signing the form is entitled to submit the application on behalf of the applicant (if the applicant is an entity or organization); and
- 3.) The person submitting the application has read and understood the conflict of interest and confidentiality discussion in the PSP (Section 2.4) and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent as provided in the Section.

Denise Kelly
Printed name of applicant

Denise Kelly
Signature of applicant

**Feasibility Study for a Plant Materials & Research Center
For CalFed Bay-Delta Projects in the San Francisco Bay
Ecological Management Zone**

Applicant

Denise Kelly
17370 Keaton Avenue
Sonoma, CA 95476

Tel. (707) 938-3733
Fax (707) 938-1450

Sole Proprietorship
Tax I.D. #: 557-08-7649

Executive Summary:

This study would be conducted to determine the feasibility of developing a plant materials nursery/research center to collect and grow plants to be used in restoration projects for the CalFed Bay Delta Program. The supply of and resource information about indigenous plants for habitat restoration is not in balance with the need and objectives set forth in the CalFed Ecosystem Restoration Plan. Solid, comprehensive assistance is needed to give to landowners, agencies, dairy and hay farmers and grapegrowers that need plants for their projects. This feasibility study would target habitat restoration projects in the North San Francisco Bay Ecological Management Zone at this time. The Center would involve an educational component for the Sonoma Creek Adopt-a-Watershed, Sonoma Ecology Center, and Sotoyome Resource Conservation District and would also involve UC Extension Viticulture Advisor Rhonda Smith.

The planting piece is one of the very most important parts of habitat restoration and is critical to the success of any project – there needs to be a reliable supply of healthy planting stock available. A steady supply is needed as well as more research about propagation and outplanting and a database of collection sites. Many agricultural landowners are willing and have the labor resource available to restore degraded areas of their property. We need to provide them with resources, material, and clear information on procedure and technique – an efficient process at a reasonable cost.

The location of the center would be determined by local zoning and the availability of an appropriate property. The center could develop into a partnering venture with other CalFed participants trying to reach the same objective of habitat restoration in a particular Ecological Management Zone. There are many different options to be explored as to the best site to locate such a center and this proposed feasibility study would explore the options and associated costs of setting up a center. Sunlight, wind factors, water quality and availability and access are some of the needs to be evaluated in order to locate a site. A vacant or surplus public/governmental site such as Skagg's Island or Sonoma Developmental Center could be ideal, or a private landowner partnering.

Potential adverse and third party impacts would be studied as part of the overall feasibility plan. Neighbors potentially may object to greenhouses and delivery trucks, traffic and personnel associated with a nursery. Storage of pots, soils and tools will need to be addressed as well as the types of growing areas that will be needed: shade structure, lath house, greenhouses, propagation houses, refrigeration, etc. Water run-off associated with conventional nursery operations can be problematic and will need to be looked at in terms of how water will be effectively utilized and recycled.

There is strong local support for a plant materials center through the Sonoma Ecology Center, Sotoyome Resource Conservation District and Adopt-a-Watershed. These local groups have expressed a high interest in coordinating with a plant materials center to train students and/or volunteers in collection methods, proper nursery techniques, plant care, etc. UC Extension Viticulture Advisor Rhonda Smith has also expressed enthusiastic interest in a plant materials center to be able to send landowners, farmers and grapegrowers to for information and plants for riparian and woodland habitat restoration, erosion control, etc.

Since rehabilitating the natural and functional connectivity of the Bay-Delta estuary and its watershed is the preferred method for achieving recovery and continued conservation of native species, the biological/ecological objective of a plant materials research center would focus on the known superiority of indigenous plant materials for individual restoration sites. There is a lack of availability of such site specific plants, especially marsh and wetland plants. On-site transplanting can work, but only so many plants can be harvested at a time and then these donor beds need to revegetate themselves or they become at risk to colonization by invasive exotics.

The objective is to have a healthy North San Francisco Bay ecosystem zone. Successful restoration projects and having the right plants in the right place at the right time would help many participants in CalFed programs achieve this objective. If indigenous plants were more readily available, it would be more likely that both short and long term projects would be implemented in a more timely fashion. Nursery grown plants gathered from site stock would be of vigorous, uniform size and would be easier to plant and to subsequently monitor. Plant procurement can also be quite time consuming and a plant materials center would allow Program participants to focus on other aspects of a habitat restoration goal.

A plant materials research center may focus on a particular habitat type within a zone, e.g. riparian and riverine aquatic, and grow plants solely for those types of restoration projects within that zone. Another approach would be to have a plant materials center that grows plants for all of the different habitats within an Ecological Management Zone, so the center would grow upland perennials and trees as well as seasonal wetland plants, saline emergents, etc. Another possibility would be to have localized plant material centers for each separate zone. The approach will depend on the demand for plants year to year and will help be determined by the feasibility study. I have been a grower and propagator for the past 23 years and have good contacts in the nursery industry – many colleagues willing and able to share ideas and experience about growing native plants.

Project Description:

There is a great advantage in restoration projects to plant the same site-specific plants back into the site. Plants and plant communities have evolved over many years to be adapted to a particular place with a certain soil profile, certain climate, certain hydrology, etc. It is very useful to gather indigenous plant materials and propagate them for replanting back into the same plant community because they are already genetically adapted and are more likely to succeed than the same plant type gathered from a different locale.

There is a great need for site specific plant materials to be grown for restoration sites. Permitting almost always requires, indeed should always require, the use of locally native plants but availability is not addressed. The market for commercially grown native plant materials is very erratic and therefore it is not economically viable for nurseries to grow a selection of plants that may/will not sell. Some restoration projects are fortunate to be funded in such a way that they have the lead-time to have propagules collected on site and contract grown for that specific project; this is the ideal approach.

There is also a need for soil bioengineering projects to have a steady source of material, mostly willow of a certain size. Soil bioengineering utilizes plant materials in large quantities (mostly willow and dogwood) to stabilize soil. Soil bioengineering has additional benefits to the environment in that it mimics a natural system, incidentally providing habitat, shading, etc. Ideally, the willow used for soil bioengineering should come from near the site – it is often difficult to secure the quantity or material needed. Access to harvest sites during the rainy season, when these projects must go in, is often difficult or detrimental to the land. Plots of willow could be grown and harvested specifically for Bay-Delta soil bioengineering projects and the access would be reliable and the willow would be of the proper size.

Some projects utilize stock that has been gathered and re-planted right on site, and this works well in some situations. When a large volume of material is needed, it does not work to reduce large numbers of native plants in one area to try and revegetate another. Transplanting is very time consuming and results can be erratic. Transplanting is also time constrained by the plant's lifecycle and planting windows may not always coincide with staff availability. When many plants are needed, it makes the most sense to gather propagules and grow them on for planting at a later time.

The scientific basis for using indigenous plants is sound and it makes sound economic sense to use plants that are adapted from the start. This study would be to determine if a plant materials research center/nursery specifically to grow plants for CalFed restoration objectives is feasible and of value for watershed areas of the North San Francisco Bay zone.

Ecological/Biological Benefits

Objectives:

The objective is to improve wetland, tidal marsh, riparian, slough, agricultural and shaded riverine aquatic habitats of the watershed areas of the North San Francisco Bay. Priority species such as Swainson's Hawk, California Black Rail, California Clapper Rail and the Salt Marsh Harvest Mouse are dependent on and affected by water management and would benefit from habitat improvement in this zone. If stream flows can be improved and a more natural sediment transport is achieved, the existing marsh areas will be more protected. Once areas are stabilized, a natural enhancement takes place and plants are able to colonize on their own without continuous human intervention.

Rehabilitating the natural capacity of Bay-Delta estuaries and watersheds so that the entire ecosystem is functionally self-sustaining is the stated preferred method for achieving recovery and continued conservation of native species. Healthy, vigorous and intact ecosystems are less susceptible to detrimental exotic species coming in and disrupting and damaging the functional connectivity of the Bay-Delta system. Colonization of invasive exotic species is to be avoided at all costs, and an intact linked ecosystem goes a long way to prevent this invasive disruption.

The actual plants used in restoration projects should be of primary importance. Propagules should be gathered well in advance from the actual site they will be planted back into and grown on into healthy and vigorous stock that has a very high chance of succeeding when outplanted. Timing is crucial in native plant restoration and stock should be ready when the ideal planting window is at hand. Unfortunately, the plants themselves are often available only from sites outside the desired locale and may be under and over-grown. Plants gathered from outside a localized habitat do not carry the same genetic material and will not as successfully re-colonize as will site specific planting stock.

A localized plant materials research center supported by local watershed groups, schools, extension agents, farmers and property owners as well as the Bay-Delta consortium of State and Federal agencies would benefit all of the players by having vigorous, site specific, custom grown plants. Bay-Delta projects would have the ideal plants available without continuously having to harvest from the restoration sites themselves, therefore lowering the risk of invasive exotics moving into sensitive sites.

Documenting and connecting at-risk populations of native species with habitat loss is being done at many different levels in the community, from grammar school children involved in Adopt-a-Watershed activities to grape growers losing native predators due to removal of native cover such as perennial grasslands and riparian vegetation. Ecosystem awareness has grown to include diverse elements of the community and many are now visualizing the same goals of restoration of native habitat, improved water quality, erosion control, etc.

A native plant materials center would be self-sustaining because of the overall need for native plants for habitat restoration, soil bioengineering and erosion control. The types of plants needed will vary per project and over time as areas are gradually restored. The projects may vary from emergent marsh species to upland perennial grasses and the plants might be grown for a sixth grade class or for the California Department of Fish and Game. There is a durable benefit in having a plant materials center as a resource, especially with many different habitats needing restoration. Over time, the demonstrated benefit of projects successfully growing with localized plants will be evident. Growing plants well requires proper space, equipment and tools, storage and time as well as sensitive, committed workers with a feel for what they are doing.

Linkages:

Future CalFed projects could be planted with the surety of having vigorous planting stock available when the project was slated for implementation. For example, emergent plant restoration projects could take place in a more timely fashion because plants taken from the original beds will be continued to be propagated or micro-propagated while the 'donor' beds of plants will be left to recover from initial harvesting. This propagation regime reduces the need to continuously disturb existing natural beds and assures a constant supply of indigenous material. Another example would be to gather and store seeds of upland plants in high seed-set years so that the material would be available in years of low seed counts.

This project addresses the following strategic objectives and targets in ERP Volume 1: Tidal Perennial Aquatic Habitat, page 112; Non-Tidal Perennial Aquatic Habitat, pages 118-119; Saline Emergent Wetland, pages 133-134; Fresh Emergent Wetland, pages 139-140; Seasonal Wetlands, page 144; Essential Fish Habitats, page 162; Perennial Grassland, pages 169-171; Agricultural Lands, pages 173-174; Plant Community Groups, pages 370 & 377.

Strategic objectives and targets in ERP Volume 2: Table 3, pages 47-50; Suisun Marsh/North San Francisco Bay Ecological Management Zone, pages 144, 146, 148, 149 & 150.

System-Wide Ecosystem Benefits:

All major natural habitat types in the North San Francisco Bay have been reduced to small fragments of the areas they once occupied. This allows for several at-risk plant and animal species to be susceptible to invasion from exotics and the natural areas irreversibly degraded. Habitat protection and restoration in one natural area favors another natural area because the entire ecosystem is linked and interdependent. Positive or negative actions in one area of the system will eventually affect another area of the system correspondingly.

Once a classification system is developed that is a basis for conservation action for North San Francisco Bay habitats, specific objectives will be formulated for each habitat type. Major habitat types include perennial grassland, riparian forests and upland areas, vernal pools and seasonal upland wetlands, non-tidal freshwater emergent wetlands, tidal sloughs, channel islands and tidal shallow water habitat.

Compatibility With Non-Ecosystem Objectives:

The separation of wetlands from tidal flows and the reclamation of emergent wetlands have altered ecological processes and functions in the North Bay. Losing these processes and functions has reduced available habitat, reduced water quality and decreased the area available for dispersing floodwaters and depositing suspended silt. Primary food chain productivity depends on spring freshwater flow events to bring in essential nutrients and recycle nutrients in the marshes.

Community awareness regarding these processes would be increased through local, broad-based educational programs studying watershed management. The importance of the entire watershed from upland down through riparian and into marsh and tideland plant communities would be studied as a whole, each interdependent for good habitat and good water quality. The stressors of the system would be noted: diversion of water for agriculture, urban and agricultural impacts on stream vegetation and water quality, erosion of farmland and streambanks in high flow events. A plant materials research center would be one more piece of this local educational component.

Technical Feasibility & Timing:

This project is a feasibility study itself to determine what permits, agreements, regulations, zoning, etc. need to be in place before a plant materials research center is implemented. The study will determine the need for such a center and what location would be best to site it. The study will also look at present plant materials research centers and nurseries that are involved in similar growing. These nurseries would be toured and photo-documented and the managers interviewed to determine the best materials and methods to construct a local center.

There are already verbal agreements in place with the Sonoma Ecology Center, the Sotoyome Resource Conservation District and the Sonoma Creek Adopt-a-Watershed staff for full support of this project. Space for the Center has been offered in concept by the Ecology Center, either at the offices of Adopt-a-Watershed near Sonoma Creek at the Sonoma Developmental Center or at the Community Garden in Sonoma. There are other areas that may be suitable for a Center, such as Skagg's Island, a publicly funded restoration site or private property owners.

Water quality and availability is very important to consider for a plant materials center, as is sunlight, wind protection, storage facilities and greenhouse space. Zoning regulations would have to be met and the center should be a welcome neighbor to the community. Timing of the actual growing of plants will depend on the funding cycles of projects to be implemented, but the center must be up and running in order to grow the plants. The center should be started as soon as a location is secured and funding is available to make it operational.

Monitoring & Data Collection Methodology

Biological / Ecological Objective:

Habitat Restoration in the North San Francisco Bay Ecological Management Zone Using Indigenous Plants

The hypothesis is that indigenous plant materials for restoration can and should be grown locally by local people whenever possible so that they become stakeholders in their watershed and community. The alternative is purchasing plants from private commercial growers, who are mostly excellent and committed to their product, but are not always involved in the community at a local level. Plants are grown at some distance away and the nurseries are often not accessible, as a local endeavor would be.

Monitoring of plant performance will be performed in collaboration with the implementing agency or contractor should a plant materials center provide plants. Data include provenance of the plants, date, weather, soil type, person collecting, storage, growing method, transplant time, container type, etc. Monitoring by the implementing party will include date of pick up and transport method, planting out method and timing, subsequent hydrology and weather, etc.

Propagation and growing techniques are very plant-specific and existing data will be used per type of plant. Part of the work of this center will be to determine the best and most cost-effective methods of growing vigorous individual plants of some of these lesser-grown species. There is published information on general plant types, specific information would come from this documentation and from interviews with growers growing similar plants. This information would be obtained from interviewing growers at Cornflower Farms, Circuit Rider Productions, GGNRA, USDA Plant Materials Research Centers, Tree of Life Nursery, etc. Hollis Allen, an ecologist for the U.S. Army Corps of Engineers and plant materials research center in Vicksburg, MS has offered assistance – he has many years of experience and is a wealth of information.

Habitat restoration is an ongoing objective with many individual short and long-term goals associated with each plant community and ecological management zone. Data collection and evaluation will be determined by the size and complexity of the individual projects as well as the implementing contractor. The protocol will be developed and refined over time as projects dictate.

Local Involvement:

The Sonoma and Napa County Boards of Supervisors and the Sonoma and Napa County Planning Departments have each been notified regarding this proposal (please see attached letters).

Local groups supporting the project include the Sonoma Creek Adopt-a-Watershed, Sonoma Ecology Center, UC Extension Viticulture Advisor Rhonda Smith, Sonoma Valley Vintners and Growers, Sotoyome RCD and the California Native Plant Society – Milo Baker Chapter.

Cost:

Cost and budget for this feasibility study is delineated below. The study itself is expected to take one year to complete; there will be a new budget to submit for the plant materials/research center after the completion of the study. There are too many unknowns at this time to write a reasonable proposed budget for a center.

Total Budget: *Numbers refer to task descriptions below:*

Task	Direct Labor Hours	Direct Salary & Benefits	*Service Contracts	Material & Acquisition Costs	Misc. & Direct Costs	Overhead & Indirect Costs	Total Cost
1	110	3300.	480.	---	350.	300.	4430.
2	100	3000.	480.	---	900.	300.	4680.
3	50	1500.	320.	---	250.	300.	2370.
4	150	4500.	640.	---	550.	300.	5990.
							\$17,470

Task 1. Need Assessment: Research & contact Cal-Fed project managers in the North San Francisco Bay Ecological Management Zone, watershed advocate groups, farmers, grape growers and property owners in the zone watersheds to assess the need for indigenous plant materials for habitat restoration. Determine level of collaboration with each group.

Task 2. Research: Study various types of propagation nurseries, both public and private, to determine the most effective set up for the plant materials/research center. Interview staff and owners regarding operational systems, chronology of propagation, photograph nursery layout.

Task 3. Locate Nursery Site: Study potential nursery sites for applicable zoning, water quality & availability, sunlight, dry and refrigerated storage, access for delivery trucks and personal vehicles, workspace & office space. Interview neighbors of sites to avoid conflicts.

Task 4. Project Management Task: Manage feasibility study; manage record keeping, collate and evaluate data, write evaluation and recommendations when study is complete.

* Service contracts include the cost of minimal office staff needed for this project at this time.

Non-Personnel Expenses Included in Misc. & Direct Costs:

Staff Travel	Copying
Insurance	Postage
Book & Magazine Purchases	Office Supplies & Equipment
Membership & Professional Expenses	Postage
Photo-documentation	Telephone & Fax
Computer Costs	Office Expense & Utilities
Printing	

Quarterly Budget:

Please refer to task numbers in the total budget above.

Task	Quarterly Budget Oct-Dec 99	Quarterly Budget Jan-Mar 00	Quarterly Budget Apr-Jun 00	Quarterly Budget Jul-Sep 00	Quarterly Budget Oct-Dec 00	Total Budget
1	2,500.	1,480.	150.	150.	150.	4,430.
2	---	1,170.	1,170.	1,170.	1,170.	4,680.
3	474.	474.	474.	474.	474.	2,370.
4	1,198.	1,198.	1,198.	1,198.	1,198.	5,990.
						\$17,470.

Schedule:

The schedule for task 1, need assessment, would take the most time at the beginning of the study, but have residual carry-over through the rest of the project. General need assessment would take approximately 3 months; specific need information for currently funded CalFed projects needing plants would be compiled so that information becomes available from CalFed.

Task 2, research, would be undertaken as soon as the need assessment was defined and determined. The research would be ongoing through the end of the study. Task 3, locate nursery, should be undertaken from the beginning of the study because it will take many hours over an extended period of time to find the best location. There will be many phone calls, prospective site visits, meetings, etc. to determine the location for a center to best serve the needs of the community and local habitat restoration.

Cost Sharing:

Cost sharing is not applicable to this project at this time and phase.

Applicant Qualifications:

(Attached on separate sheets)

Denise A. Kelly
17370 Keaton Avenue
Sonoma, CA 95476

Office: (707) 938-3733
Fax: (707) 938-1450

Education:

MS. Environmental Horticulture, University of California, Davis 1992

Area of Study: Propagation Study of three *Carex* species (*Carex aperta*, *Carex kelloggii*, *Carex obnupta*) used for USFS lakeside restoration projects in Oregon, with Dr. Andrew Leiser.

BS Horticulture, California Polytechnic State University, San Luis Obispo 1978

Senior Project: "Ethnobotany of Plants Native to Humboldt County, California"

Continuing education classes and seminars on landscape architecture & design (UC Berkeley Extension), restoration topics including riparian systems, native Oak preservation, native grasslands, IPM (Integrated Pest Management), arboriculture, sustainable agriculture, biotechnical erosion control.

Work Experience:

1995 – Present:

Kelly & Kelly, Environmental Horticulture

Horticultural consultant and certified arborist for both environmental restoration projects and large scale commercial and residential projects emphasizing appropriate horticulture – the best species, size, planting technique, water requirements, maintenance, etc. – for the site.

1987 to 1995:

Hanford Company, 23195 Maffei Road, Sonoma, CA 95476

Environmental horticulturist for environmental restoration, landscape construction and general engineering firm; project estimator; project administration & management; grower & propagator for 3-acre nursery; monitoring & reporting for vernal pool, riparian hardwoods and coastal scrub mitigation projects.

1995 to 1996:

Adopt-a-Watershed (Sonoma County Resource Conservation Dist.) Santa Rosa, CA

Associate member and volunteer working with AmeriCorps personnel leading field trips to natural areas and coordinating habitat restoration planting projects with grade school children utilizing on-site collected propagules and container grown stock.

1978 to 1987:

Retail & Wholesale Nursery Management :

Cottage Garden Nursery, Eureka, CA; Miller Farms Nursery, McKinleyville, CA; Floorcraft Garden Center, San Francisco, CA.

I have been a grower-propagator for the past 23 years and have good contacts in the nursery industry – many colleagues willing and able to share ideas and experience.

Affiliations:

California Native Plant Society (secretary for Board – Milo Baker Chapter). Society for Ecological Restoration, California Horticultural Society, International Plant Propagator's Society, International Society for Arboriculture (WC Certified Arborist #1469), California Native Grass Association.

Environmental Projects:

1995 – Present: Horticulturist and Certified Arborist working for private and commercial clients providing consulting, mitigation & monitoring of revegetation projects, specification writing, project design and management. Clients include the City of Sonoma, City of Santa Rosa (with Resource Design), Hanford Company, Sonoma Ecology Center, Jordan Vineyard & Winery, North Bay Construction, peer music, The Shorestein Company & Toyon Farm.

1998 – City of Sonoma & Sonoma Ecology Center: Biological Survey of Nathanson Creek Study & document plants, birds & wildlife, human impacts, erosion, areas most in need of enhancement, possible bike path siting, hazardous trees, exotic vegetation most critical to remove, etc.

1997 – Ongoing (10-years): City of Sonoma, St. Francis Place Mitigation Monitoring Horticulturist on a team with two other biologists monitoring the construction and maintenance of a vernal pool mitigation for Blennosperma bakeri (Sonoma Sunshine), an endangered species.

1998 – Ongoing (5 years): City of Santa Rosa Engineering/Public Works, Matanzas Creek Mitigation & Monitoring Horticulturist/Arborist on a team with a landscape architect to supervise installation and maintenance of a riparian restoration project along an urban creek. The goal is to shade the creek, provide cover for wildlife, screen new concrete retaining walls, minimize erosion during high flows and establish native plants while removing invasive exotic plants.

Hanford Company: 1987 – 1995

Native Plant Project Horticulturist:

Soil Bioengineering: Buffalo Bayou, Ford residence, Houston, TX

Streambank Restoration: Menomonee River, Wisconsin Dept. of Natural Resources, Milwaukee, WI

Streambank Restoration/Mitigation: Sonoma County Public Works, Valley Ford, CA

Bank & Shoreline Stabilization: U.S. Army Corps of Engineers, Sacramento River/Cache Slough, Rio Vista, CA; City of Pittsburg, Pittsburg, CA

Bank Stabilization: U.S. Army Corps of Engineers, Sacramento River, Grimes, CA. Gathering and planting of willow, rush & dogwood for shoreline stabilization in wetland mitigation bank.

Hardwoods Revegetation: Design, propagule gathering, growing & planting, monitoring and maintenance, California Dept. of Fish & Game @ Grey Lodge, Gridley, CA.

Roadside Revegetation: CalTrans, Interstate 5, Mt. Shasta, CA.

Vernal Pool Restoration: Planting & monitoring, Wm. Lyon Co., Windsor, CA.

San Francisco Bay Shoreline/Estuary Revegetation: Gathering & growing salt tolerant shoreline plants, CalTrans, Berkeley, CA.

Cotati Creek Revegetation: Monitoring, Cotati, CA. Monitoring of creek re-planting for Sonoma County Water Agency/Hanford Company.

NONDISCRIMINATION COMPLIANCE STATEMENT

STD. 19 (REV. 3-95) FMC

Denise Kelly - Environmental Horticulture

COMPANY NAME

The company named above (hereinafter referred to as "prospective contractor") hereby certifies, unless specifically exempted, compliance with Government Code Section 12990 (a-f) and California Code of Regulations, Title 2, Division 4, Chapter 5 in matters relating to reporting requirements and the development, implementation and maintenance of a Nondiscrimination Program. Prospective contractor agrees not to unlawfully discriminate, harass or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, disability (including HIV and AIDS), medical condition (cancer), age, marital status, denial of family and medical care leave and denial of pregnancy disability leave.

CERTIFICATION

I, the official named below, hereby swear that I am duly authorized to legally bind the prospective contractor to the above described certification. I am fully aware that this certification, executed on the date and in the county below, is made under penalty of perjury under the laws of the State of California.

OFFICIAL'S NAME

DATE EXECUTED

EXECUTED IN THE COUNTY OF

PROSPECTIVE CONTRACTOR'S SIGNATURE

owner - consultant

PROSPECTIVE CONTRACTOR'S TITLE

PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME

April 12, 1999

Denise Kelly
Environmental Horticulture
17370 Keaton Ave.
Sonoma, CA 95476
707 938-3733

Mr. Michael Cale
Sonoma County Board of Supervisors
575 Administration Drive, room 100
Santa Rosa, CA 95403

Dear Supervisor Cale,

I am writing to notify your office of my plans to apply for a CalFed Bay Delta grant. I am applying to do a feasibility study for a native plant materials research center as step one, step two would be to open up the center and start growing plants.

I have the support of the Sonoma Creek Adopt-a-Watershed group, the Sonoma Ecology Center, the Sonoma Valley Vintners and Growers, Sotoyome Resource Conservation District and UC Extension viticulture advisor Rhonda Smith. The center would focus on the growing of indigenous plant materials for CalFed projects in the North San Francisco Bay Ecological Management Zone which includes Sonoma Creek and watershed, Petaluma River and marsh, the Napa River and marsh plus some upland areas.

The center would have a strong educational component as funding allows, and will include community involvement if feasible. The location of the center is to be determined of course and will need to have greenhouse space, good water quality, etc.

I will notify you if/when I receive funding for this project. Please feel free to contact me with any questions or comments. Thank you.

Respectfully yours,



Denise Kelly

April 12, 1999

Denise Kelly
Environmental Horticulture
17370 Keaton Ave.
Sonoma, CA 95476
707 938-3733

Sonoma County Office of Permit &
Resource Management
2550 Ventura Ave.
Santa Rosa, CA 95403

Dear Sir or Madam,

I am writing to notify your office of my plans to apply for a CalFed Bay Delta grant. I am applying to do a feasibility study for a native plant materials research center as step one; step two would be to open up the center and start growing plants.

I have the support of the Sonoma Creek Adopt-a-Watershed group, the Sonoma Ecology Center, the Sonoma Valley Vintners and Growers, the Sotoyome Resource Conservation District and UC Extension viticulture advisor Rhonda Smith. The center would focus on the growing of indigenous plant materials for CalFed projects in the North San Francisco Bay Ecological Management Zone which includes Sonoma Creek and watershed, Petaluma River and marsh, the Napa River and marsh plus some upland areas.

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Environmental Horticulture
17370 Keaton Ave.
Sonoma, CA 95476
707 938-3733

Napa County Planning Dept.
P.O. Box 660
Napa, CA 94559

Dear Members of the Planning Department,

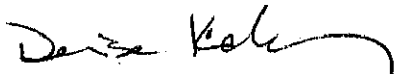
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Denise Kelly

April 12, 1999

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Environmental Horticulture
17370 Keaton Ave.
Sonoma, CA 95476
707 938-3733

Napa County Board of Supervisors
1195 3rd Street, room 310
Napa, CA 94559

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